

**A Redescription of the Scorpion *Vejovis flavus***

(Scorpionida: Vejovidae)

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In 1900, Nathan Banks listed the new scorpion *Vejovis flavus* Banks. Unfortunately, Banks' description was comprised of only a few statements embedded in a key. To the best of my knowledge these statements are the only descriptive information on *V. flavus*. Evidently, Banks' knowledge of *V. flavus* was based on a single female specimen from Albuquerque, New Mexico.

In recent years *Vejovis confusus* Stahnke of Arizona and southern Nevada has been confused with *V. flavus*. Due to this association with *V. confusus*, *V. flavus* has been considered a member of the eusthenura group of *Vejovis*. The findings of this study verify that *V. flavus* is a member of the eusthenura group although displaying some interesting deviations from the group.

I am grateful to Dr. Herbert W. Levi of the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, for the loan of the type specimen.

**VEJOVIS FLAVUS Banks**

(Figs. 1-6; Table 1)

**DIAGNOSIS.**—A unique member of the eusthenura group, somewhat related to *Vejovis confusus* of Arizona and southern Nevada from which it can be separated by the following characters: Inferior median keels delicately crenulate on all caudal segments instead of smooth on segments I-II; chelal carinae distinct, superior, inner accessory, and inner carinae mildly crenulate as opposed to smooth; pectinal tooth count greater, 21-22 for female, in contrast to 13-17.

**HOLOTYPE FEMALE.**—Entire specimen dark orange, undoubtedly caused by prolonged preservation. Eyes and aculeus dark brown to black. No other detectable markings. *Structure*: Measurements as given in table 1. *Carapace*: Posterior surface covered with coarse granules, ocular triangle smooth; longer than wide, anterior region noticeably narrowed (Fig. 2); shorter than fifth caudal segment. Anterior edge essentially straight; median tubercle situated somewhat anterior, in ratio 3.1/8.6; median eyes and tubercle small, one-fifth width of carapace at that point. Posterior lateral eye reduced considerably, anterior two approximately same size. *Preabdomen*: All tergites granulated on extreme posterior edges; seventh tergite with two pairs of serrate keels. Sternites smooth with slit-like stigmata; sternite V lacking keels. *Cauda*: Basal segment wider than long. Seg-



FIG. 1. *Vejovis flavus* Banks, holotype female, dorsal view.

ments I–IV: Dorsal and dorsal lateral keels serrate, ending in elongate posterior spine. Lateral keels crenulate on segment I, crenulate on posterior third of II, posterior quarter of III, and absent on IV. Inferior lateral keels crenulate; inferior median keels delicately crenulate on posterior two-thirds of segment I and on entirety of II–IV. Segment V: Dorsal keels granulate; lateral keels granulate on anterior half; inferior lateral keels serrate; inferior median keel crenulate to serrate. Intercarinal spaces essentially agranular. *Telson*: Vesicle not as wide or deep as fifth caudal segment width; ventral surface with mild granulation. Very weak subaculear nodule at base of aculeus; aculeus short with average curve (Fig. 3). *Pectines*: Well developed (Fig. 4); three times as long as widest point. Pectinal tooth count 22/21 for female; middle lamellae 13. Basal piece separated on anterior half, length/width ratio 1.8/2.6. Genital operculum completely fused. *Chelicerae*: Lower edge of movable finger smooth with weak serrulae on distal portion; lower distal tooth of movable finger noticeably longer than upper counterpart. Other dentition standard for Vejovinae. *Pedipalps*: Femoral carinae serrate; inner face with 7–9 serrate granules. Dorsal carinae of tibia crenulate; inner ventral carina crenulate to serrate, exterior ventral carina smooth; inner proximal projection reduced, armed with 7–9 crenulate granules. All eight carinae of chela developed; inner, inner accessory, and superior carinae subtly crenulate, other carinae smooth. Movable finger shorter than either carapace or fifth caudal segment. Teeth in single straight row, little to no scalloping (Fig. 5). Supernumerary teeth number six on fixed finger and seven on movable finger. Trichobothrial pattern (Fig. 6) with counts standard for genus: 26 chela, 19 tibia, and 3 femur. *Walking legs*: Single file of delicate spines flanked by longer setae on tarsus venter. Carinae of patellae delicately crenulate.

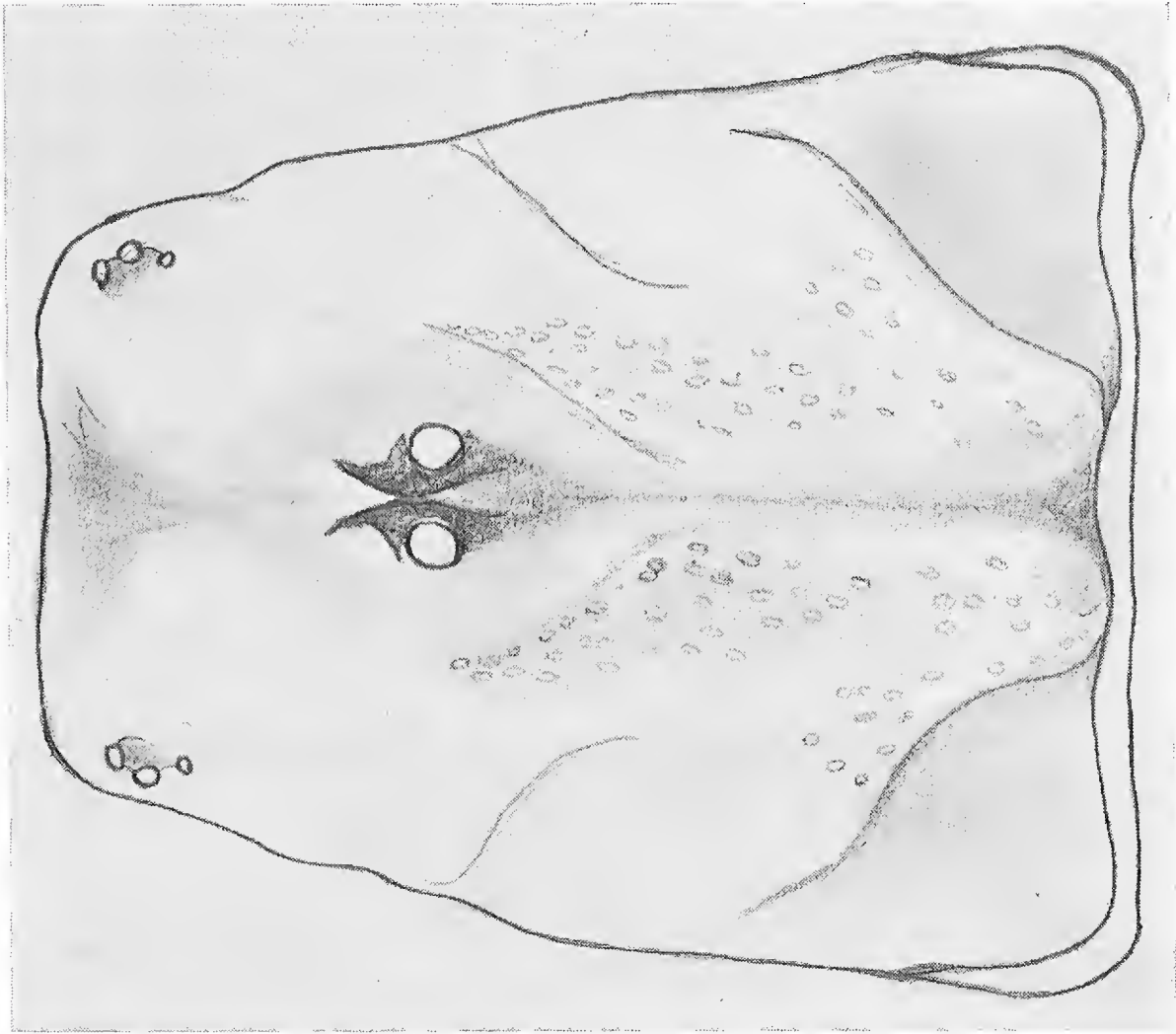


FIG. 2. *Vejovis flavus* Banks, holotype female, carapace.

MALE.—Unknown.

TYPE DATA.—Holotype female from Albuquerque, New Mexico. Date and collector information are missing from the original specimen label. Specimen is in remarkably good condition. Base color is dark, un-



FIG. 3. *Vejovis flavus* Banks, holotype female, telson, lateral view.

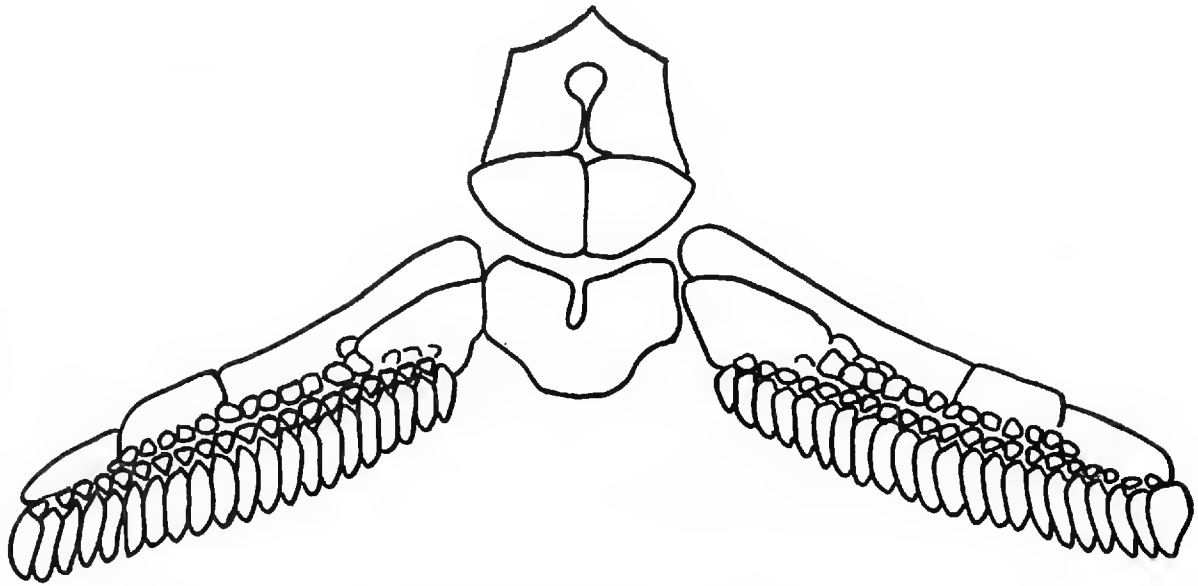


FIG. 4. *Vejovis flavus* Banks, holotype female, pectines.

doubtedly caused by prolonged preservation. Subtle setation has been essentially obliterated throughout the years.

DISTRIBUTION.—Known from type locality only.

COMMENTS.—Brief as Banks' description was, I found a couple of discrepancies in comparing it with the holotype female. In the key, Banks states that *V. flavus* has smooth chelal palms. However, the holotype is equipped with carinae on its chelae, some even crenulate. At this point in the key Banks is contrasting *V. flavus* with *Vejovis punctipalpi* (Wood) a species whose chelae are heavily crested, much more so than *V. flavus*. Also, Banks' states that the inferior median keels of the first caudal segment are plain whereas on the holotype they are weakly crenulate on the posterior two-thirds.

Although a member of the eusthenura group, *V. flavus* presents two

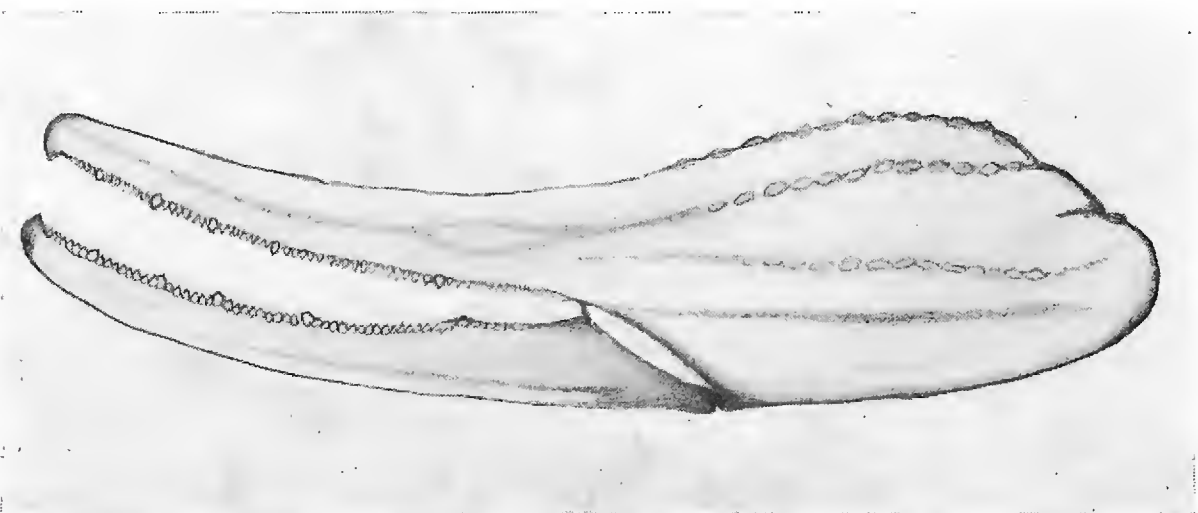


FIG. 5. *Vejovis flavus* Banks, holotype female, chela, lateral view.



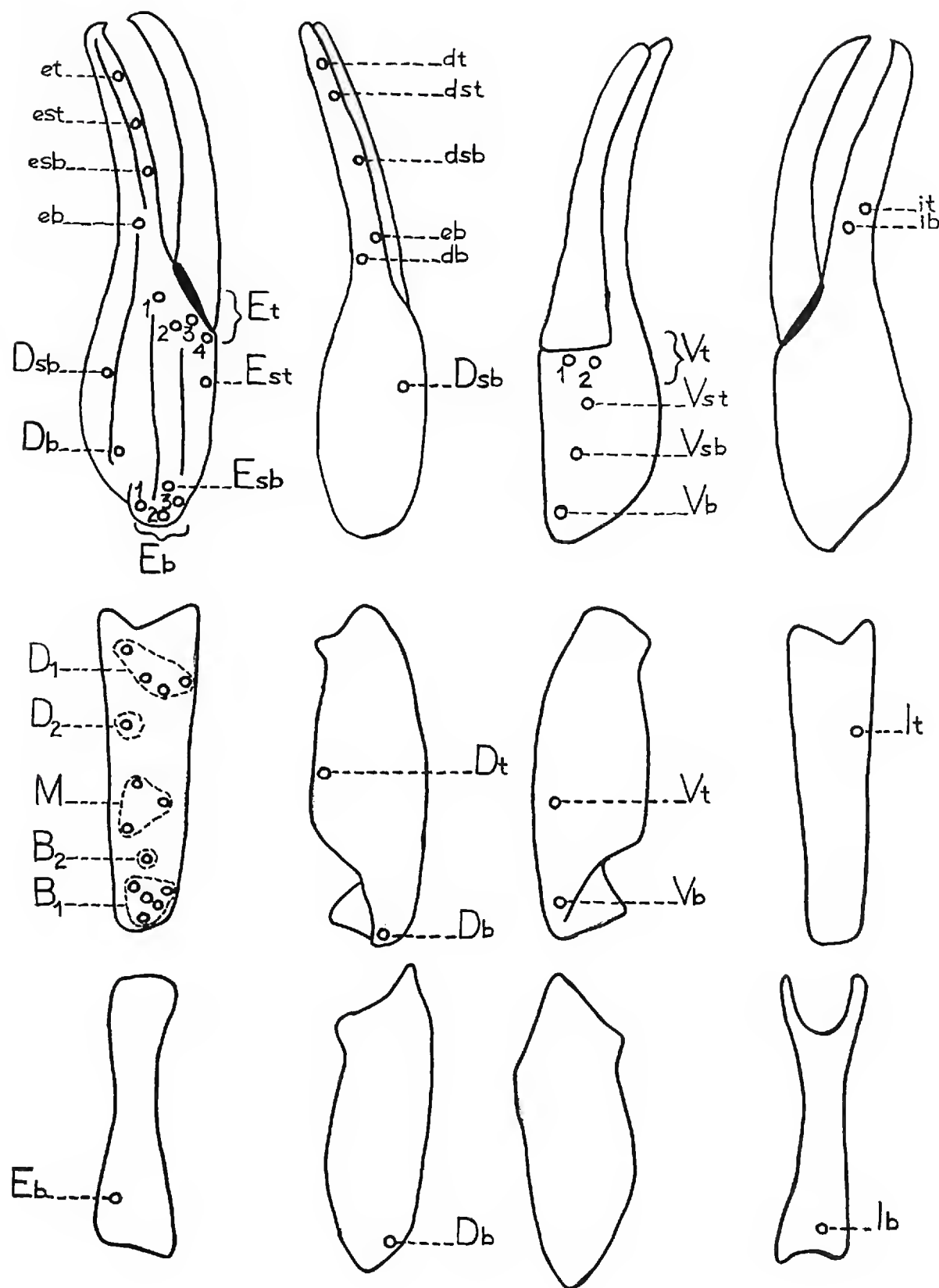


FIG. 6. *Vejovis flavus* Banks, holotype female, trichobothrial pattern of chela (top row), tibia (middle row), and femur (bottom row). Exterior (left column), dorsal (left middle column), ventral (right middle column), and interior (right column) views. Letter abbreviations: E and e, exterior; D and d, dorsal; I and i, interior; V, ventral; M, median; B and b, basal; t, terminal; st, subterminal; sb, subbasal.

TABLE 1. Measurements (in millimeters) of *Vejovis flavus* Banks.

|                                         | Holotype<br>(female) |
|-----------------------------------------|----------------------|
| Total length                            | 33.9                 |
| Carapace, length                        | 5.0                  |
| Width at lateral eyes                   | 2.7                  |
| Width at caudal edge                    | 4.4                  |
| Preabdomen, length                      | 12.1                 |
| Postabdomen, length                     | 16.8                 |
| Caudal segment I (length/width/depth)   | 2.3/2.6/2.0          |
| Caudal segment II (length/width/depth)  | 2.7/2.5/2.0          |
| Caudal segment III (length/width/depth) | 3.0/2.5/2.0          |
| Caudal segment IV (length/width/depth)  | 3.5/2.4/2.0          |
| Caudal segment V (length/width/depth)   | 5.3/2.2/1.9          |
| Telson, length                          | 4.7                  |
| Vesicle (length/width/depth)            | 2.7/1.6/1.3          |
| Aculeus, length                         | 2.0                  |
| Pedipalp, length                        | 15.2                 |
| Femur (length/depth)                    | 4.0/1.2              |
| Tibia (length/depth)                    | 4.1/1.6              |
| Chela, length                           | 7.1                  |
| Palm (length/width/depth)               | 2.9/1.9/1.6          |
| Fixed finger, length                    | 3.4                  |
| Movable finger, length                  | 4.4                  |
| Pectines                                |                      |
| Teeth                                   | 22/21                |
| Middle lamellae                         | 13                   |

interesting deviations from the definition given by Williams (1970). The carinal structure of the chelae is not characteristic of the eusthenura group which normally has reduced chelal palms, and the carinae, if present, are usually underdeveloped and smooth. The pectinal tooth count of the female is somewhat large for this group, exceeding all the other known species, male as well as female. By projecting from a maximum total length/pectinal tooth count ratio for the eusthenura group, one may suspect that the female holotype is not fully matured.

LITERATURE CITED

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